

# HOPE

Hope, the 11th typhoon of the season, developed in a region of intense cyclonic shear produced by a deep southwesterly monsoon surge. Not since August 1974, during the similar development of Typhoon Mary, has the western Pacific experienced such a deep and prolonged southwesterly monsoon flow. The disturbance soon to become Typhoon Hope was first detected near 17N-157E on the morning of the 13th of September as a region of deep, but unorganized, convection at the eastern edge of the intense monsoon trough. This same trough had spawned Tropical Storm Georgia four days earlier.

By the following morning the disturbance exhibited much better organization (Fig. 4-38) and a Tropical Cyclone Formation Alert was issued at 0044Z on the 14th. At 0600Z the American Chieftain (WJNA) 125 nm north-east of Hope, reported 45 kt southeasterly winds and a minimum sea level pressure of 998.7 mb. Some 200 nm south-southeast of the system, the American Lynx (WZJE) reported 40 kt winds from the southwest and a minimum sea level pressure of 998.8 mb. The first warning on Tropical Storm Hope was issued at 0702Z.

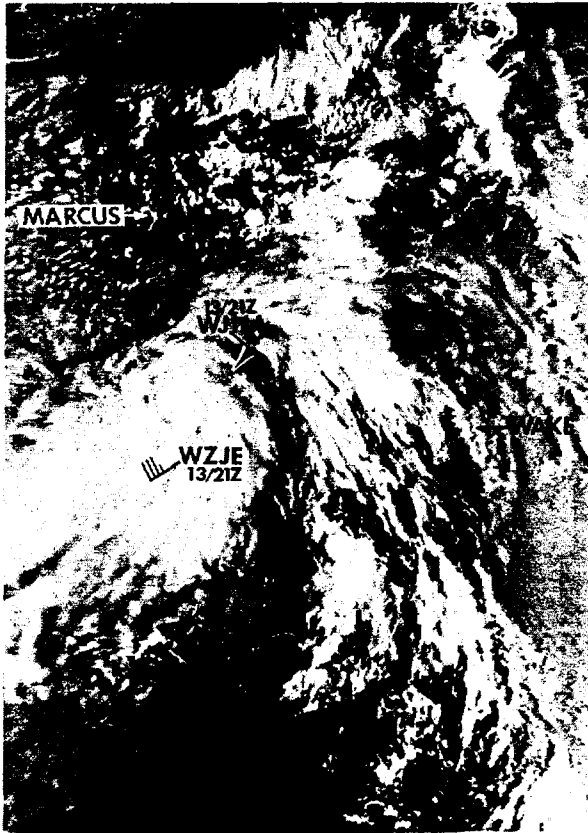


FIGURE 4-38. Hope approaching tropical storm intensity 340 nm south of Marcus, 13 September 1976, 2013Z. Gale force winds were observed in the east semicircle of the system illustrating the intensity of the monsoon trough. (DMSP imagery)

Reconnaissance aircraft at 0847Z on the 14th indicated a central pressure of 995 mb and testified to the large asymmetrical character of this cyclone. Maximum winds in the western quadrant were found to be only 20 kt while ships in the east semicircle reported winds of 45 kt 250 nm from the storm.

During the subsequent 2 days Hope accelerated to the north-northwest toward a weakness in the mid-tropospheric subtropical ridge, a weakness created by the combined effects of a 500 mb trough located above Japan and an active Tropical Upper Tropospheric Trough (TUTT), oriented northeast-southwest, west of Marcus Island. At 0240Z on the 14th reconnaissance aircraft observed the minimum recorded sea level pressure of 981 mb and indicated that the north-northwestward movement of Hope had increased to 15 kt. At 0300Z, Marcus Island reported maximum sustained surface winds of 54 kt, a minimum sea level pressure of 988.6 mb and a 3-hourly pressure fall of 7.7 mb as the typhoon passed 90 nm south-southwest.

Hope attained its maximum intensity of 70 kt about 1800Z on the 15th, approximately 240 nm northwest of Marcus (Fig. 4-39). During the morning of the 16th Typhoon Hope began to weaken as it slowed to 12 kt and began to traverse the mid-tropospheric subtropical ridge. Twenty-four hours later the storm had weakened to 45 kt and was moving toward the north-northeast at a speed in excess of 30 kt. The final warning was issued at 1800Z on the 17th when strong shear, cooler sea surface temperatures, and incursion of cool air had stripped Hope of its tropical nature.

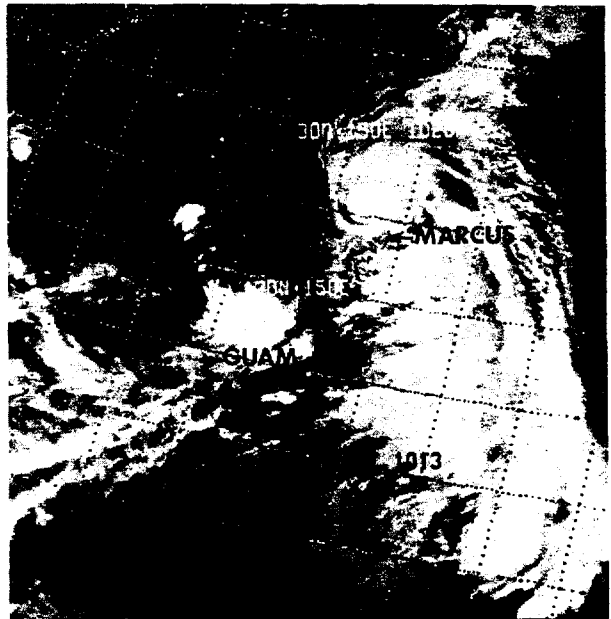


FIGURE 4-39. Inverted infrared photograph of Hope approaching typhoon intensity 110 nm west-northwest of Marcus, 15 September 1976, 1018Z. The remnants of Tropical Storm Georgia appear northeast of Guam. (NOAA-4 imagery)